

REMARKS/ARGUMENTS

Claims 1-28 are pending in the present application. The Examiner has rejected claims 1, 2, 4-19, and 21-28. The Examiner has objected to claims 3 and 20. Applicant respectfully requests reconsideration of pending claims 1-28.

The Examiner has objected to the drawings under 37 CFR § 1.84(p)(4), stating "reference character '210' has been used to designate both Reassembly Circuitry (as shown in Fig. 2) and routing circuitry as described in the specification page 5, line 25." Applicant has amended Page 5, lines 23-28, to recite "reassembly circuitry 210." Applicant submits no new matter has been added, as the amendment is consistent with Fig. 2, as well as page 6, lines 8 and 25, and page 7, lines 20 and 28, for example. Thus, Applicant submits the drawing objection under 37 CFR § 1.84(p)(4) has been obviated.

The Examiner has objected to the drawings under 37 CFR § 1.84(p)(5), stating "they do not include the following reference sign(s) mentioned in the description: Reference character (580) described in page 11, line 13 for Fig. 3." Applicant respectfully disagrees. Applicant notes reference character 580 is included below buffer 530 in the originally filed Figure 3 and underlined to indicate that it comprises other elements depicted in Figure 3. To reflect what is already stated in the description of Figure 3 on page 10, lines 1 and 2, namely, "Figure 3 illustrates a block diagram of an alternate embodiment of an egress line card 580," Applicant has added a dashed-line box to Figure 3, which Applicant submits does not add new matter. Thus, Applicant submits the drawing objection under 37 CFR § 1.84(p)(5) has been obviated.

The Examiner has rejected claims 1, 2, 5-8, 18, 19, and 21-25 under 35 U.S.C. § 103(a) as being unpatentable over Aramizu et al. (U.S. Patent No. 6,493,356) in view of Ganmukhi et al. (U.S. Patent No. 6,233,243). Applicant respectfully disagrees.

Regarding claim 18, the Examiner provides a paragraph spanning more than a page (most of page 3 and most of page 4 of the Office action) alleging teachings of the Aramizu reference. Examiner appears to rely upon that paragraph to attempt to show obviousness of the all features of claim 18 found above "when a subsequent cell of the packet is determined to be an end of message cell indicating the end of the packet...." However, in that entire paragraph, the Examiner appears to recite

alleged teachings only as to the steps of "storing the first cell in a buffer" and "storing each of the subsequent cells in the buffer" when the Examiner alleges "...the segmentation and reassembly system comprises a plurality of frame buffers for storing pieces of data...." Applicant can find nothing in that paragraph of the Office action that appears to allege teachings as to other features of claim 18, including, for example, "in response to receipt of a first cell of a packet corresponding to a selected source of a plurality of sources, allocating a reassembly context to the selected source," "updating the reassembly context to reflect storage of the first cell in the buffer," "receiving subsequent cells of the packet," and "updating the reassembly context as each subsequent cell is stored in the buffer." As an even more specific example, Applicant can find no mention of "reassembly context" in that entire page-long paragraph. Thus, Applicant submits the Examiner has failed to present a *prima facie* showing of alleged obviousness.

Without specifically alleging obviousness of particular features of claim 18, as discussed above, the Examiner broadly references "Col. 2, lines 8 plus," "Fig. 1," and "(Col. 3; lines 8 plus)" of Aramizu. However, Applicant cannot find within such cited portions of the Aramizu reference teaching as to at least several of the features recited in claim 18, including, for example, "in response to receipt of a first cell of a packet corresponding to a selected source of a plurality of sources, allocating a reassembly context to the selected source," "updating the reassembly context to reflect storage of the first cell in the buffer," and "updating the reassembly context as each subsequent cell is stored in the buffer:"

The Examiner acknowledges, "Aramizu does not expressly disclose the step of when a subsequent cell of the packet is determined to be an end of message cell indicating the end of the packet, completing reassembly of the packet in the buffer to produce a reassembled packet, queuing the reassembled packet for transmission to a destination and deallocating the reassembly context." As with the Aramizu reference, the Examiner provides a paragraph spanning more than one page (bottom of page 4 and most of page 5 of the Office action) alleging teachings of the Ganmukhi reference. Examiner appears to rely upon that paragraph to attempt to show obviousness of the all features of claim 18 beginning at "when a subsequent cell of the packet is determined to be an end of message cell indicating the end of the packet...." However, in that entire paragraph, the Examiner does not appear to allege specific teaching of Ganmukhi as rendering obvious particular features of claim 18. For example, Applicant can find nothing in that paragraph of the Office action that appears to allege

teachings as to features of claim 18 such as , for example, "completing reassembly of the packet in the buffer to produce a reassembled packet," "queuing the reassembled packet for transmission to a destination of a plurality of destinations," and "deallocating the reassembly context." As an even more specific example, Applicant can find no mention of "reassembly context" in that entire page-long paragraph. Thus, Applicant submits the Examiner has failed to present a *prima facie* showing of alleged obviousness.

Without specifically alleging obviousness of particular features of claim 18, as discussed above, the Examiner broadly references "Fig. 2" and "(See Fig. 3 and Col. 4, lines 30 plus)" of the Ganmukhi reference. However, Applicant cannot find within such cited portions of the Aramizu reference teaching as to at least several of the features recited in claim 18, including, for example, "when a subsequent cell of the packet is determined to be an end of message cell indicating the end of the packet;," "completing reassembly of the packet in the buffer to produce a reassembled packet," and "deallocating the reassembly context."

The Examiner asserts that "it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to apply Ganmukhi's method and apparatus for performing cut-through virtual circuit merging into Aramizu's segmentation and reassembly system for ATM communications network improved in throughput with the motivation being to provide a method and system for reassembling packets using a limited number of reassembly contexts." However, as noted above, the Examiner does not appear to allege that specific features of the claimed invention as set forth in claim 18 are rendered obvious by either the Aramizu reference or the Ganmukhi reference, either alone or in combination. As a specific example, Applicant notes the Examiner fails to allege specific teaching of either reference as disclosing or rendering obvious a "reassembly context," much less "allocating a reassembly context to the selected source," "updating the reassembly context," or "deallocating the reassembly context." Thus, Applicant submits the cited portions of the cited references, either alone or in combination, fail to anticipate or render obvious the claimed invention as set forth in claim 18.

Regarding claims 19 and 21-25, Applicant notes such claims depend from independent claim 18. Applicant has presented arguments above for the allowability of claim 18. Thus, Applicant submits claims 19 and 21-25 are also in condition for allowance.

Moreover, while claim 19 recites "...wherein the reassembly context includes a head pointer and a tail pointer corresponding to the packet as stored in the buffer, wherein the packet is stored as a linked list in the buffer," Applicant can find no assertion by the Examiner that either cited reference, alone or in combination, discloses or renders obvious the features of the present invention as set forth in claim 19. As examples, Applicant can find no assertions by the Examiner regarding "a head pointer," "a tail pointer," or "a linked list." Thus, Applicant submits the Examiner has failed to present a *prima facie* showing of obviousness with respect to claim 19. Thus, Applicant submits claim 19 is in condition for allowance.

Also, while claim 21 recites "...wherein memory includes operating instructions such that the processing module allocates the reassembly context from a set of reassembly contexts," Applicant can find no assertion by the Examiner that either cited reference, alone or in combination, discloses or renders obvious the features of the present invention as set forth in claim 21. As an example, Applicant can find no assertion by the Examiner regarding a "reassembly context." Thus, Applicant submits the Examiner has failed to present a *prima facie* showing of obviousness with respect to claim 21. Thus, Applicant submits claim 21 is in condition for allowance.

Further, while claim 22 recites "...wherein a number of reassembly contexts in the set of reassembly contexts is fewer than a number of sources of the plurality of sources," Applicant can find no assertion by the Examiner that either cited reference, alone or in combination, discloses or renders obvious the features of the present invention as set forth in claim 22. Thus, Applicant submits the Examiner has failed to present a *prima facie* showing of obviousness with respect to claim 22. Thus, Applicant submits claim 21 is in condition for allowance.

Also, while claim 23 recites "...wherein the memory includes operating instructions such that the processing module queues the reassembled packet in a manner that includes passing at least one control cell to a traffic management device that controls transmission of packets to at least a portion of the plurality of destinations," Applicant can find no assertion by the Examiner that either cited reference, alone or in combination, discloses or renders obvious the features of the present invention as set forth in claim 23. As an example, Applicant can find no assertion by the Examiner regarding "passing at least one control cell to a traffic management device that controls transmission of packets to at least a portion of the plurality of destinations." Thus, Applicant submits the Examiner has failed

to present a *prima facie* showing of obviousness with respect to claim 23. Thus, Applicant submits claim 23 is in condition for allowance.

Moreover, while claim 24 recites "...wherein the memory includes operating instructions such that the processing module wherein queues the reassembled packet for transmission to multiple destinations of the plurality of destinations," Applicant can find no assertion by the Examiner that either cited reference, alone or in combination, discloses or renders obvious the features of the present invention as set forth in claim 24. As an example, Applicant can find no assertion by the Examiner regarding "multiple destinations." Thus, Applicant submits the Examiner has failed to present a *prima facie* showing of obviousness with respect to claim 24. Thus, Applicant submits claim 24 is in condition for allowance.

Moreover, while claim 25 recites "...wherein the memory includes operating instructions such that when the processing module queues the reassembled packet, the processing module causes encapsulation of the reassembled packet to be changed," Applicant can find no assertion by the Examiner that either cited reference, alone or in combination, discloses or renders obvious the features of the present invention as set forth in claim 24. As an example, Applicant can find no assertion by the Examiner regarding "...causes the encapsulation of the reassembled packet to be changed." Thus, Applicant submits the Examiner has failed to present a *prima facie* showing of obviousness with respect to claim 25. Thus, Applicant submits claim 25 is in condition for allowance.

Regarding claims 1, 2, and 4-8, the Examiner states claims 1, 2, and 4-8 are analyzed and rejected as previously discussed with respect to claims 18, 19, and 21-25. As noted above,

The Examiner has rejected claims 9, 11-17, and 26-28 under 35 U.S.C. § 103(a) as being unpatentable over Aramizu et al. in view of Ganmukhi et al. as applied to the claims above, and further in view of O'Neill et al. (U.S. Patent No. 6,243,382). Applicant respectfully disagrees.

Regarding claims 9, 11-17, and 26-28, while the Examiner states, "Aramizu and Ganmukhi disclose the claimed limitations discussed in paragraph 5 above," Applicant has presented reasons above as to why the Examiner has failed to present a *prima facie* showing of obviousness in paragraph 5 of the Office action and why the cited portions of the cited references, either alone or in combination, fail to anticipate or render obvious the claimed invention as set forth in claims 1, 2, 5-8, 18, 19, and 21-

25. Moreover, Applicant notes claims 9, 11-17, and 26-28 are not dependent from any of claims 1, 2, 5-8, 18, 19, and 21-25 and are not identical to any of those claims. Thus, Applicant submits the Examiner cannot rely upon paragraph 5 of the Office action as establishing a *prima facie* showing of obviousness with respect to claims 9, 11-17, and 26-28.

Moreover, the Examiner acknowledges "Aramizu and Ganmukhi do not expressly disclose he claimed feature of the traffic management block for receiving indication that packets corresponding to reassembly contexts of the plurality of reassembly contexts are ready for transmission." The Examiner appears to allege the O'Neill reference discloses a "traffic management device," which the Examiner alleges "One skilled in the art...would have applied," along with "Ganmukhi's novel use of the performing VC merging in the egress port of a network into Aramizu's reassembling packet system...." The Examiner states, "(See Fig. 2; Col. 8; lines 36 plus)." Fig. 2 of O'Neill includes traffic management devices 24₁-24_N. However, Applicant notes claim 9 recites "...a traffic management block operably coupled to the context table and the buffer, wherein the traffic management block receives indications that packets corresponding to reassembly contexts of the plurality of reassembly contexts are ready for transmission, wherein the traffic management block transmits packets ready for transmission over at least one egress connection...." Applicant submits the Examiner has not alleged specific teachings as to particular features of claim 9, such as, for example, "a traffic management block operably coupled to the context table and the buffer," a "context table," "wherein the traffic management block receives indications that packets corresponding to reassembly contexts of the plurality of reassembly contexts are ready for transmission," "reassembly contexts," or "wherein the traffic management block transmits packets ready for transmission over at least one egress connection." Thus, Applicant submits the Examiner has failed to present a *prima facie* showing of obviousness with respect to claim 9.

Also, Applicant notes claim 26 recites "...a traffic management block operably coupled to the buffer and the routing circuitry, wherein the traffic management block receives cells from the routing circuitry with accompanying indications, wherein the traffic management block maintains a plurality of reassembly contexts for reassembling packets in the buffer, wherein the traffic management block stores received cells in the buffer at locations corresponding to the plurality of contexts, wherein when a final cell for a completed packet is received, the traffic management block queues the completed packet for transmission over the at least one egress connection included with the final cell for the

completed packet as received from the routing circuitry...." Applicant submits the Examiner has not alleged specific teachings as to particular features of claim 26, such as, for example, "a traffic management block operably coupled to the buffer and the routing circuitry," "wherein the traffic management block receives cells from the routing circuitry with accompanying indications," "wherein the traffic management block maintains a plurality of reassembly contexts for reassembling packets in the buffer," " wherein the traffic management block stores received cells in the buffer at locations corresponding to the plurality of contexts," and "wherein when a final cell for a completed packet is received, the traffic management block queues the completed packet for transmission over the at least one egress connection included with the final cell for the completed packet as received from the routing circuitry." Thus, Applicant submits the Examiner has failed to present a *prima facie* showing of obviousness with respect to claim 26.

As to claims 11-17, Applicant notes they depend from independent claim 9, for which Applicant has presented reasons for allowability above. Thus, Applicant submits claims 11-17 are also in condition for allowance.

As for claims 27 and 28, Applicant notes they depend from independent claim 26, for which Applicant has presented reasons for allowability above. Thus, Applicant submits claims 27 and 28 are also in condition for allowance.

Also, claim 11 recites "...wherein a number of reassembly contexts in the plurality of reassembly contexts is less than a number of ingress connections in the plurality of ingress connections." Applicant can find no assertion by the Examiner that any of the cited portions of the cited references, either alone or in combination, discloses or renders obvious the features of the present invention as set forth in claim 11. Thus, Applicant submits the Examiner has failed to present a *prima facie* showing of obviousness with respect to claim 11. Thus, Applicant submits claim 11 is in condition for allowance.

Further, claim 13 recites "...wherein the cells received for the packet are stored in the buffer as a linked list, and wherein the first reassembly context stores a head pointer and a tail pointer corresponding to the linked list." Applicant can find no assertion by the Examiner that any of the cited portions of the cited references, either alone or in combination, discloses or renders obvious the features of the present invention as set forth in claim 13. As examples, Applicant can find no assertion

by the Examiner regarding "a linked list," "a head pointer," and "a tail pointer." Thus, Applicant submits the Examiner has failed to present a *prima facie* showing of obviousness with respect to claim 13. Thus, Applicant submits claim 13 is in condition for allowance.

Also, claim 14 recites "...wherein the traffic management block includes a plurality of queues, wherein the traffic management block queues packets awaiting transmission in one of the plurality of queues prior to transmission." Applicant can find no assertion by the Examiner that any of the cited portions of the cited references, either alone or in combination, discloses or renders obvious the features of the present invention as set forth in claim 14. As an example, Applicant can find no assertion by the Examiner regarding "the traffic management block includes a plurality of queues." Thus, Applicant submits the Examiner has failed to present a *prima facie* showing of obviousness with respect to claim 14. Thus, Applicant submits claim 14 is in condition for allowance.

Further, claim 15 recites "...wherein the routing circuitry provides the indication to the traffic management block that the packet corresponding to the first reassembly context is ready for transmission by providing a control cell to the traffic management block." Applicant can find no assertion by the Examiner that any of the cited portions of the cited references, either alone or in combination, discloses or renders obvious the features of the present invention as set forth in claim 15. Thus, Applicant submits the Examiner has failed to present a *prima facie* showing of obviousness with respect to claim 15. Thus, Applicant submits claim 15 is in condition for allowance.

Also, claim 16 recites "...wherein the routing circuitry provides multiple control cells to the traffic management block for the packet such that the traffic management block transmits the packet over multiple egress connections." Applicant can find no assertion by the Examiner that any of the cited portions of the cited references, either alone or in combination, discloses or renders obvious the features of the present invention as set forth in claim 16. As an example, Applicant can find no assertion by the Examiner regarding "the traffic management block transmits the packet over multiple egress connections." Thus, Applicant submits the Examiner has failed to present a *prima facie* showing of obviousness with respect to claim 16. Thus, Applicant submits claim 16 is in condition for allowance.

Further, claim 17 recites "wherein the routing circuitry provides the traffic management block with encapsulation modification information, wherein the traffic management block modifies the

encapsulation of the packet prior to transmission on at least one of the multiple egress connections." Applicant can find no assertion by the Examiner that any of the cited portions of the cited references, either alone or in combination, discloses or renders obvious the features of the present invention as set forth in claim 17. As an example, Applicant can find no assertion by the Examiner regarding "encapsulation modification information." Thus, Applicant submits the Examiner has failed to present a *prima facie* showing of obviousness with respect to claim 17. Thus, Applicant submits claim 17 is in condition for allowance.

Also, claim 27 recites "wherein routing circuitry performs cyclical redundancy check verification for packets received, wherein when cyclical redundancy check verification indicates that an at least partially received packet has been corrupted, the routing circuitry may cause the at least partially received packet to be purged." Applicant can find no assertion by the Examiner that any of the cited portions of the cited references, either alone or in combination, discloses or renders obvious the features of the present invention as set forth in claim 27. As an example, Applicant can find no assertion by the Examiner regarding "cyclical redundancy check verification." Thus, Applicant submits the Examiner has failed to present a *prima facie* showing of obviousness with respect to claim 27. Thus, Applicant submits claim 27 is in condition for allowance.

Further, claim 28 recites "wherein the routing circuitry deallocates reassembly contexts, corresponding to packets when final cells for the packets are received." Applicant can find no assertion by the Examiner that any of the cited portions of the cited references, either alone or in combination, discloses or renders obvious the features of the present invention as set forth in claim 28. As an example, Applicant can find no assertion by the Examiner regarding "the routing circuitry deallocates reassembly contexts." Thus, Applicant submits the Examiner has failed to present a *prima facie* showing of obviousness with respect to claim 28. Thus, Applicant submits claim 28 is in condition for allowance.

The Examiner has objected to claims 3 and 20 but states they would be allowable if rewritten in independent form including all of the limitations of the base claims and any intervening claims.

In conclusion, Applicant has overcome all of the Office's rejections, and early notice of allowance to this effect is earnestly solicited. If, for any reason, the Office is unable to allow the

Application on the next Office Action, and believes a telephone interview would be helpful, the Examiner is respectfully requested to contact the undersigned attorney.

Respectfully submitted,

Date

07/27/2005



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